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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/741,304
Filing Date: December 18, 2003
Appellant(s): VANDANAPU ET AL.

Intel Corporation
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed March 20, 2006 appealing from the Office action mailed August 1, 2005.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

6,7278,669 Benno 4-2004

"A Silence Compression Scheme for use with G.729 Optimized for V.70 Digital Simultaneous Voice and Data Applications, IEEE"	**Benyassine et al.**	**September 1997**

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 4, 6, 7, 9 – 15, 17 - 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Benno (US Patent Number 6,728,669).

Regarding claims 1, 9, Benno discloses an article of manufacture and method (figs. 4 – 10) comprising a machine-accessible medium having content to encode a first and a second subframe of a frame of data, each subframe having multiple tracks; identify one of the multiple tracks for each subframe; and generate a track indicator to indicate a decoder the identified track for both subframe. Benno discloses in Fig. 4 a frame 400 which includes a number of subframes 354, 356, 358. These subframes have a plurality of tracks shown in figs. 5 and 6; the multiple tracks are identified as 404, 406, 408 in fig. 5 and as 502, 504 in fig. 6; the tracks have track positions 402, 506 in figs. 5, 6. The track positions are or reads on the track indicators. Also, as noted in fig. 10, the signals splits into signal frames with pulses located within the tracks. Using table of figs. 5 – 6 one can identify track indicators by using track (404) and position (402) (see Benno, col. 2, lines 29 – 44). Fig. 7 is the article of manufacture].

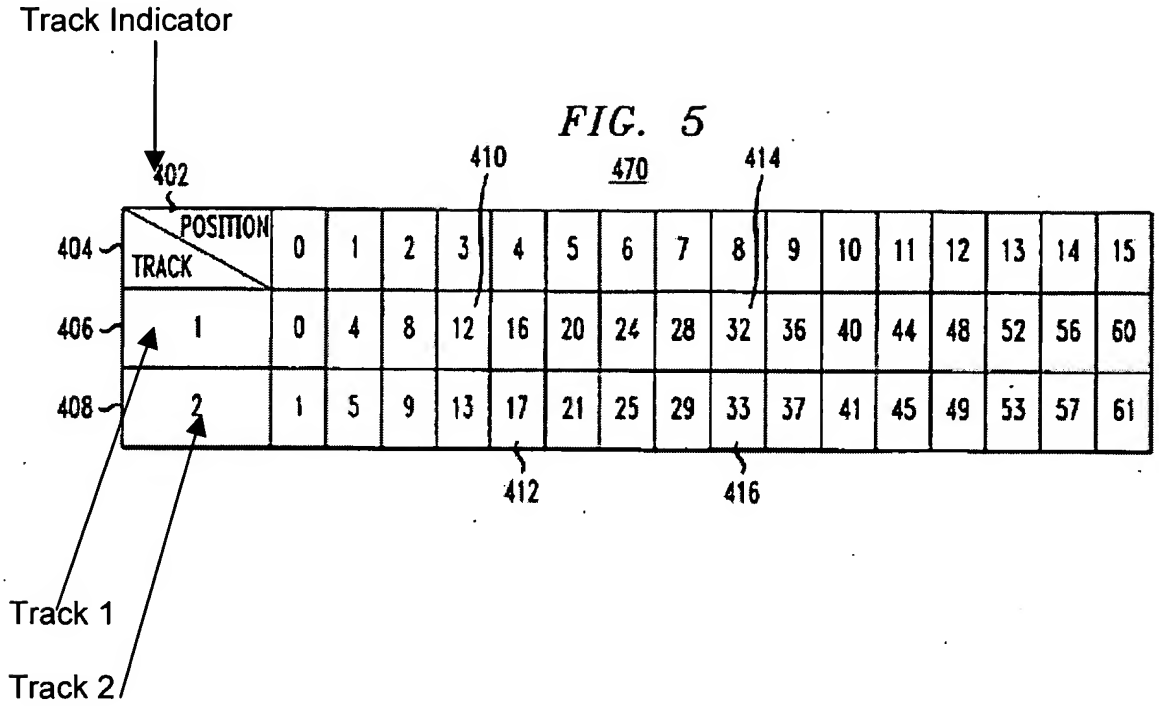


FIG. 5

Regarding claims 4, 10, Benno discloses an article of manufacture and method (figs. 4 – 10), wherein a track has pulse positions (402, fig. 5; 506, fig. 6) wherein the content to provide instructions to cause the device to encode subframes having multiple tracks comprises the content to provide instructions to cause the device to encode subframes having at least one track with an additional pulse position as compared to another track (fig. 10), and wherein the content to provide instructions to cause the device to identify one of the multiple tracks for each subframe comprises the content to provide instructions to cause the device to identify the at least one track with the additional pulse position (fig. 10) [Benno discloses in Fig. 4 a frame 400 which includes

a number of subframes 354, 356, 358. These subframes have a plurality of tracks shown in figs. 5 and 6; the multiple tracks are identified as 404, 406, 408 in fig. 5 and as 502, 504 in fig. 6; the tracks have track positions 402, 506 in figs. 5, 6. The track positions are or reads on the track indicators. Also, as noted in fig. 10, the signals splits into signal frames with pulses located within the tracks. Using table of figs. 5 – 6 one can identify track indicators by using track (404) and position (402) (see Benno, col. 2, lines 29 – 44).

Regarding claims 11, Benno discloses an article of manufacture (figs. 4 – 10), wherein the content to provide instructions to cause the device to encode the subframes having multiple tracks comprises the content to provide instructions to cause the device to encode subframes having multiple tracks in a sequence of track locations (910, fig. 10), and wherein the content to provide instructions to cause the device to identify one of the multiple tracks for each subframe comprises the content to provide instructions to cause the device to identify the track location of one of the multiple tracks for each subframe (908, fig. 10), and wherein the content to provide instructions to cause the device to generate the track indicator (track locations as shown in figs. 5, 6) comprises the content to provide instructions to cause the device to generate a set of bits that corresponds to the track locations for all of the identified tracks for both subframes [Benno discloses in Fig. 4 a frame 400 which includes a number of subframes 354, 356, 358. These subframes have a plurality of tracks shown in figs. 5 and 6; the multiple tracks are identified as 404, 406, 408 in fig. 5 and as 502, 504 in fig. 6; the tracks have track positions 402, 506 in figs. 5, 6. The track positions are or reads on the track

indicators. Also, as noted in fig. 10, the signals splits into signal frames with pulses located within the tracks. Using table of figs. 5 – 6 one can identify track indicators by using track (404) and position (402) (see Benno, col. 2, lines 29 – 44).

Regarding claim 13, Benno discloses an encoding apparatus (figs. 4 – 10) comprising: a receiver to receive a data stream [the input data is received at 710 of fig. 8); processing logic (710, fig. 8) to encode the data stream into a frame of data, the frame of data to have a first and a second subframe, each subframe to have multiple tracks, and the processing logic to identify one of the multiple tracks for each subframe of the received frame of data, and generate a track indicator having information to indicate the identified track for both subframes [Benno discloses in Fig. 4 a frame 400 which includes a number of subframes 354, 356, 358. These subframes have a plurality of tracks shown in figs. 5 and 6; the multiple tracks are identified as 404, 406, 408 in fig. 5 and as 502, 504 in fig. 6; the tracks have track positions 402, 506 in figs. 5, 6. The track positions are or reads on the track indicators. Also, as noted in fig. 10, the signals splits into signal frames with pulses located within the tracks. Using table of figs. 5 – 6 one can identify track indicators by using track (404) and position (402) (see Benno, col. 2, lines 29 – 44)]; and a transmitter (602, fig. 7) responsive to the processing logic to transmit the generated track indicator [Fig. 4 in Benno discloses a frame 400 which includes a number of subframes 354, 356, 358. These subframes have a plurality of tracks shown in figs. 5 and 6; the multiple tracks are being identified as well in figs. 5 and 6 as noted as 404, 406, 408, 502, 5046; the tracks are being indicated as the track positions 402, 506 in figs. 5, 6 and the identified first and second

pulse positions are encoded. Also, as noted in fig. 10, the signals have been splitted / divided into signal frames of which pulse are located in the tracks and encoded identified pulse positions in index of a codebook].

Regarding claim 14, Benno discloses an encoding apparatus (figs. 4 – 10) wherein the processing logic encodes a frame of data having multiple tracks with pulse positions, and encodes at least one track to have an additional pulse position as compared to another track, and wherein the processing logic identifies the at least one track with the additional pulse position. [Benno discloses in Fig. 4 a frame 400 which includes a number of subframes 354, 356, 358. These subframes have a plurality of tracks shown in figs. 5 and 6; the multiple tracks are identified as 404, 406, 408 in fig. 5 and as 502, 504 in fig. 6; the tracks have track positions 402, 506 in figs. 5, 6. The track positions are or reads on the track indicators. Also, as noted in fig. 10, the signals splits into signal frames with pulses located within the tracks. Using table of figs. 5 – 6 one can identify track indicators by using track (404) and position (402) (see Benno, col. 2, lines 29 – 44)].

Regarding claim 15, Benno discloses an encoding apparatus (figs. 4 – 10) wherein the processing logic (710, fig. 8) encodes a frame having subframes having multiple tracks in a sequence of track locations and identifies the track location of one of the multiple tracks for each subframe, and wherein the processing logic generates a set of bits that corresponds the track locations for all of the identified tracks for both subframes. [Benno discloses in Fig. 4 a frame 400 which includes a number of subframes 354, 356, 358. These subframes have a plurality of tracks shown in figs. 5

and 6; the multiple tracks are identified as 404, 406, 408 in fig. 5 and as 502, 504 in fig. 6; the tracks have track positions 402, 506 in figs. 5, 6. The track positions are or reads on the track indicators. Also, as noted in fig. 10, the signals splits into signal frames with pulses located within the tracks. Using table of figs. 5 – 6 one can identify track indicators by using track (404) and position (402) (see Benno, col. 2, lines 29 – 44)].

Regarding claim 17, Benno discloses a coding system (figs. 4 – 10) comprising: a speech encoder [vocoder, fig. 7] having: a receiver to receive a data stream [input data is received at 710 of fig. 8]; processing logic (710, fig. 8) to encode the data stream into a frame of data, the frame of data to have a first and a second subframe, each subframe to have multiple tracks, and the processing logic to identify one of the multiple tracks for each subframe of the received frame of data, and generate a track indicator having information to indicate the identified track for both subframes [Benno discloses in Benno discloses in Fig. 4 a frame 400 which includes a number of subframes 354, 356, 358. These subframes have a plurality of tracks shown in figs. 5 and 6; the multiple tracks are identified as 404, 406, 408 in fig. 5 and as 502, 504 in fig. 6; the tracks have track positions 402, 506 in figs. 5, 6. The track positions are or reads on the track indicators. Also, as noted in fig. 10, the signals splits into signal frames with pulses located within the tracks. Using table of figs. 5 – 6 one can identify track indicators by using track (404) and position (402) (see Benno, col. 2, lines 29 – 44)]; and a transmitter (602, fig. 8) responsive to the processing logic to transmit the generated

track indicator (fig. 8), and a transmission line (606, fig. 7) coupled with the transmitter to transport the generated track indicator.

Regarding claim 18, Benno discloses a coding system (figs. 4 – 10) wherein the processing logic (710, fig. 8) encodes a frame of data having multiple tracks with pulse positions, and encodes at least one track to have an additional pulse position as compared to another track, and wherein the processing logic identities the at least one track with the additional pulse position [Benno discloses in Fig. 4 a frame 400 which includes a number of subframes 354, 356, 358. These subframes have a plurality of tracks shown in figs. 5 and 6; the multiple tracks are identified as 404, 406, 408 in fig. 5 and as 502, 504 in fig. 6; the tracks have track positions 402, 506 in figs. 5, 6. The track positions are or reads on the track indicators. Also, as noted in fig. 10, the signals splits into signal frames with pulses located within the tracks. Using table of figs. 5 – 6 one can identify track indicators by using track (404) and position (402) (see Benno, col. 2, lines 29 – 44)].

Regarding claims 6, 19, Benno discloses coding system and method (figs. 4 – 10) wherein the processing logic (710, fig. 8) encodes a frame having subframes having multiple tracks in a sequence of track locations and identifies the track location of one of the multiple tracks for each subframe, and wherein the processing logic generates a set of bits that corresponds the track locations for all of the identified tracks for both subframes (figs. 4 – 6; col. 1 ,lines 33 - 37) [Benno discloses in Fig. 4 a frame 400 which includes a number of subframes 354, 356, 358. These subframes have a plurality of tracks shown in figs. 5 and 6; the multiple tracks are

identified as 404, 406, 408 in fig. 5 and as 502, 504 in fig. 6; the tracks are indicated as the track positions 402, 506 in figs. 5, 6. The track positions are the track indicators; and the identified first and second pulse positions are encoded. Also, as noted in fig. 10, the signals have been splitted / divided into signal frames of which pulse are located in the tracks and encoded identified pulse positions in index of a codebook].

Regarding claims 7, 12, 16, 20, Benno discloses a coding system [article of manufacturing] and method (figs. 4 – 10), wherein the processing logic (710, fig. 8) generates a set of bits that corresponds to an ordered pair (col. 1, lines 33 – 38)[as seen vododers generates a number of bits, and figs. 5, 6 as shown have two tracks that have an ordered pair which can be represented as binary numbers], a value of the first member of the pair to indicate the identified track in the first subframe (col. 1, lines 33 – 38), and the value of the second member of the pair to indicate the identified track in the second subframe (col. 1, lines 33 – 38)[as seen vododers generates a number of bits, and figs. 5, 6 as shown have two tracks that have an ordered pair which can be represented as binary numbers and as seen in fig. 5, 6, the second number will identify the track] (figs. 4, 5, 10].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Benno (US Patent Number 6,728,669) in view of Benyassine et al. (A Silence Compression Scheme For Use With G.729 Optimized for V.70 Digital Simultaneous Voice and Data Applications, IEEE).

Regarding claim 5, Benno discloses all the limitations as discussed above except a method wherein the subframes comprises the subframes according to the ITU-T G.729E Standard. However, Benyassine et al., in a related art, discloses a system and method wherein the ITU-T G.729E Standard is used as a coding frames/subframes (page 64, first paragraph)[note that an algorithm was designed to meet the need for an advanced speech coding technology and the speech coding includes frames and subframes]. Therefore, it would have been obvious to one of ordinary skill in the at the time the invention was made to modify Benno's system with that of Benyassine et al. in order to improve performance in the system.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Benno (US Patent Number 6,728,669).

Regarding claim 2, Benno discloses all the limitations as discussed above but does not explicitly disclose a method for encoding data wherein encoding the subframes having multiple tracks comprises encoding subframes, each having a number of tracks, the number being other than a power of two and wherein the encoding the subframes having a non-power of two number of tracks comprises encoding subframes having 5 tracks. However, it is noted in Benno, (406, fig. 5), the number of tracks is a multiple of 4 which includes a number of tracks wherein the number being other than a power of

two (for instance 16, 32). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that Benno's system would perform the same function as the claimed invention since Benno discloses in figs. 5, 6 the structural features that would achieve the same end result.

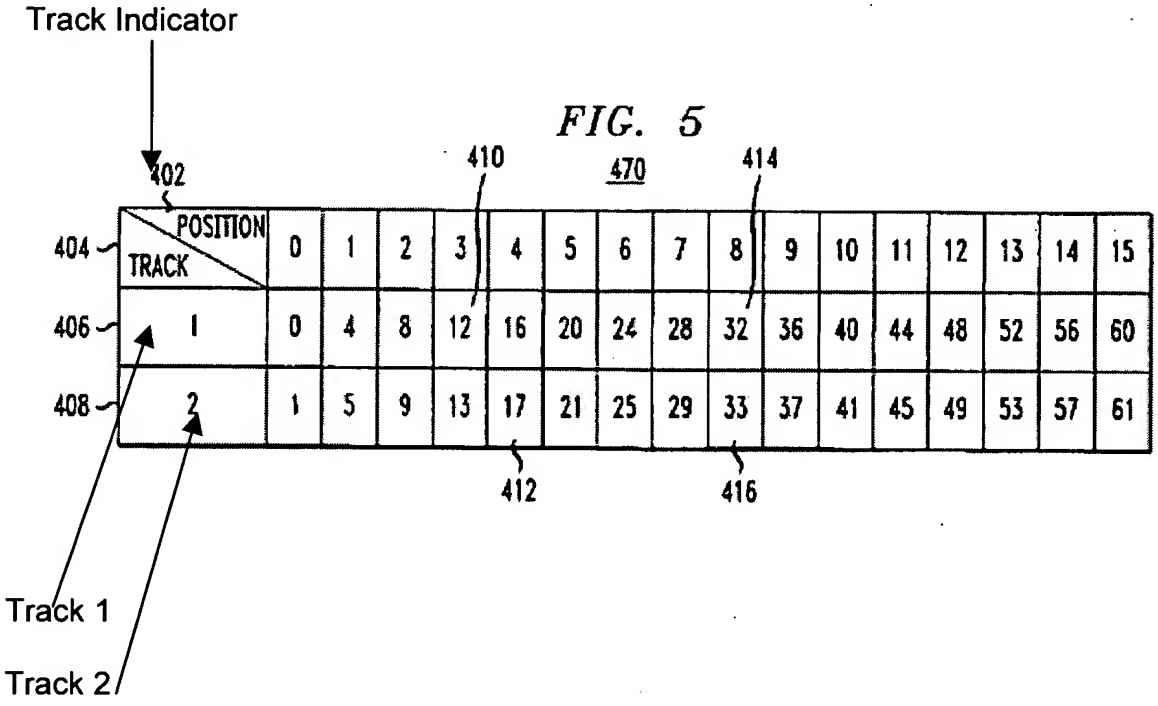
Allowable Subject Matter

Claims 3, 8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

(10) Response to Argument

Regarding the appellant's argument on page 3, lines Benno fails to "disclose or suggest within the discussions of the these figures or anywhere else, a track indicator as recited in the independent claims", the Examiner respectfully disagrees.

Benno discloses in Fig. 4 a frame 400 which includes a number of subframes 354, 356, 358. These subframes have a plurality of tracks shown in figs. 5 and 6; the multiple tracks are identified as 404, 406, 408 in fig. 5 and as 502, 504 in fig. 6; the tracks have track positions 402, 506 in figs. 5, 6. The track positions are or reads on the track indicators. Also, as noted in fig. 10, the signals splits into signal frames with pulses located within the tracks. Using table of figs. 5 – 6 one can identify track indicators by using track (404) and position (402) (see Benno, col. 2, lines 29 – 44).



Also, fig. 5 at 406 corresponds to track 1 and 408 corresponds to track 2. For example, Track 1 samples 12 corresponds to track indicator (position) "3". Track 2 sample 17 corresponds to track indicator (position) "4". The positions of the pulses are the track indicators (see Benno, col. 2, lines 29 – 44)

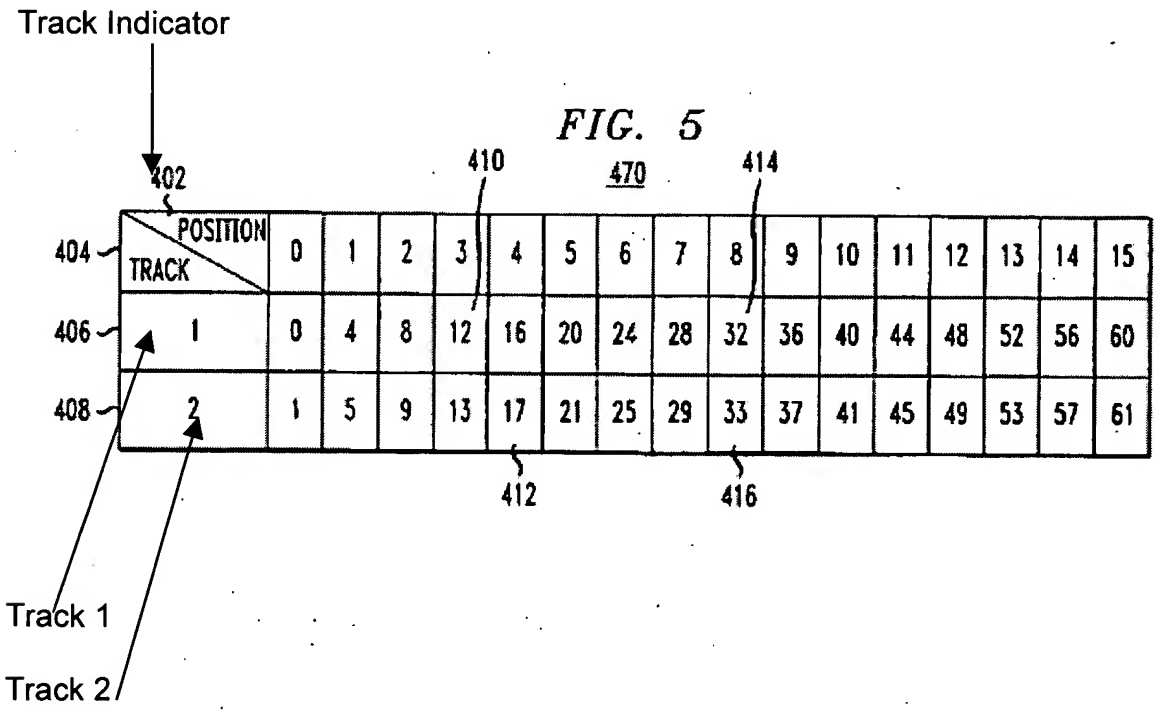


FIG. 5

The appellant even acknowledges that Benno's reference merely discusses "the use of lookup tables to determine where pulse positions are located within a track" on page 3 lines 4 – 6.

Regarding the appellant's argument on paragraph bridging pages 3 and 4 that Benno "fails to discuss identification of tracks or the indication of tracks within a subframe, the Examiner respectfully disagrees.

Benno discloses in Fig. 4 a frame 400 which includes a number of subframes 354, 356, 358. These subframes have a plurality of tracks shown in figs. 5 and 6; the multiple tracks are identified as 404, 406, 408 in fig. 5 and as 502, 504 in fig. 6; the tracks have track positions 402, 506 in figs. 5, 6. The track positions are or reads on the track indicators. Also, as noted in fig. 10, the signals splits into signal frames with pulses located within the tracks. Using table of figs. 5 – 6 one can identify track indicators by using track (404) and position (402) (see Benno, col. 2, lines 29 – 44).

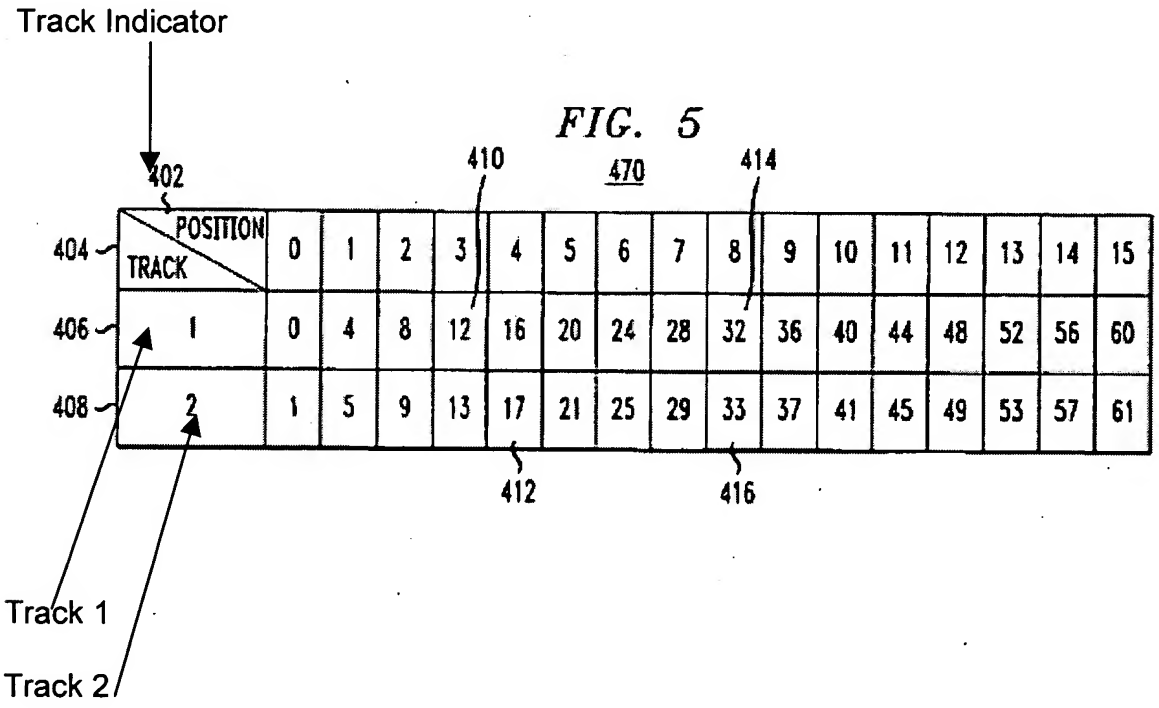


FIG. 5

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Jean Bruner Jeanglaude

Conferees:

Rexford Barnie

REXFORD BARNIE
SUPERVISORY PATENT EXAMINER

Ricky Mack